

FIG. 1

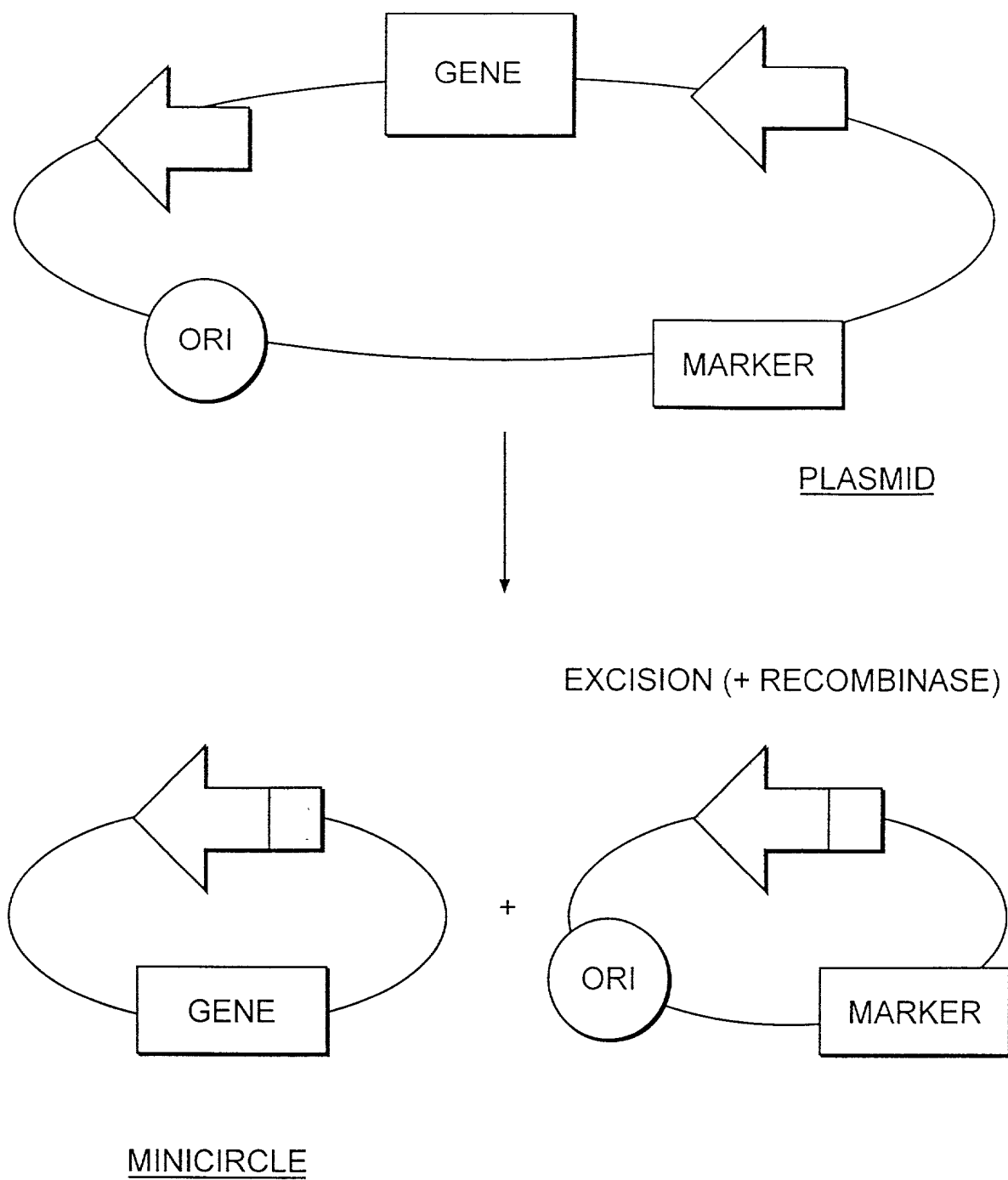


FIG. 2

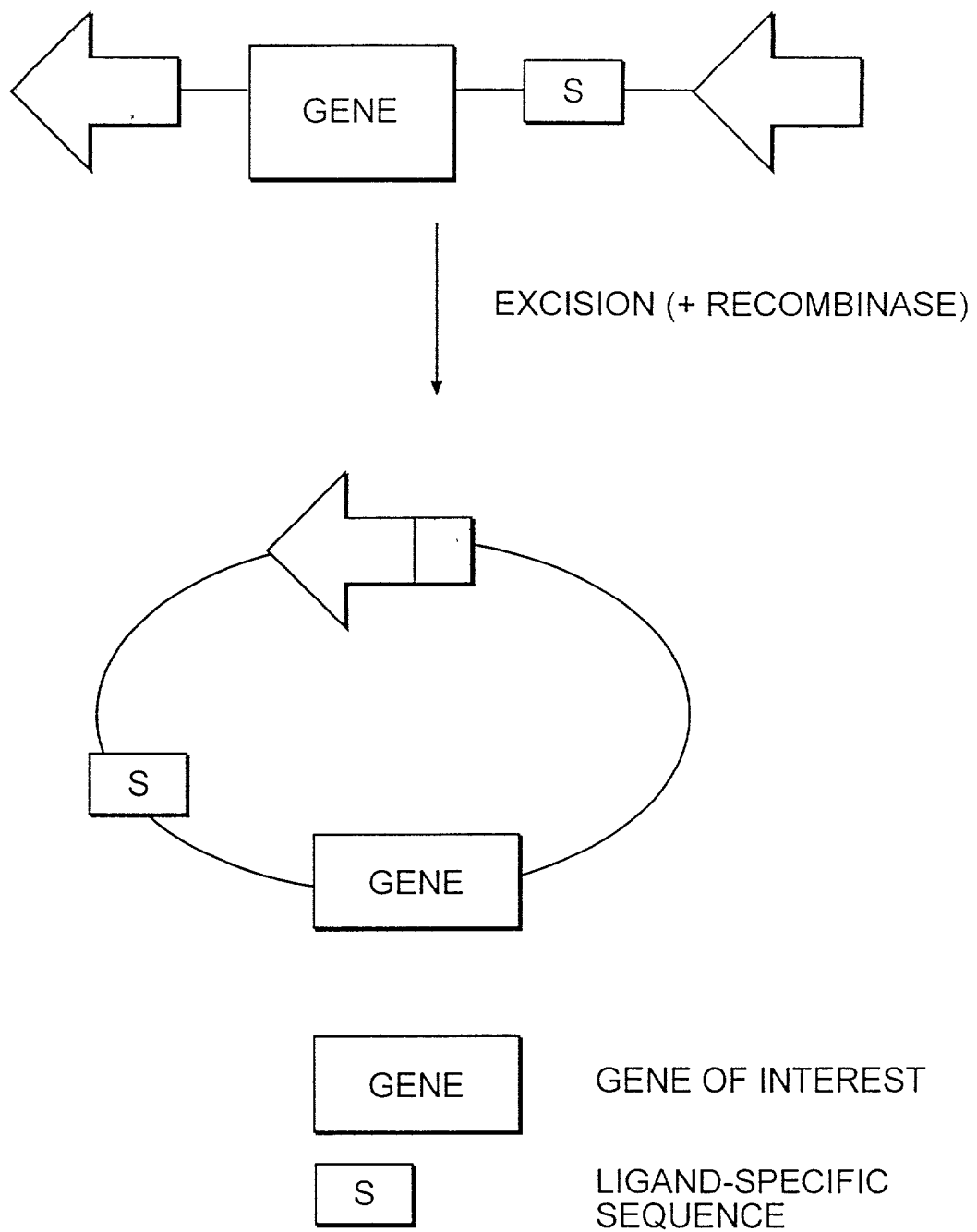


FIG. 3

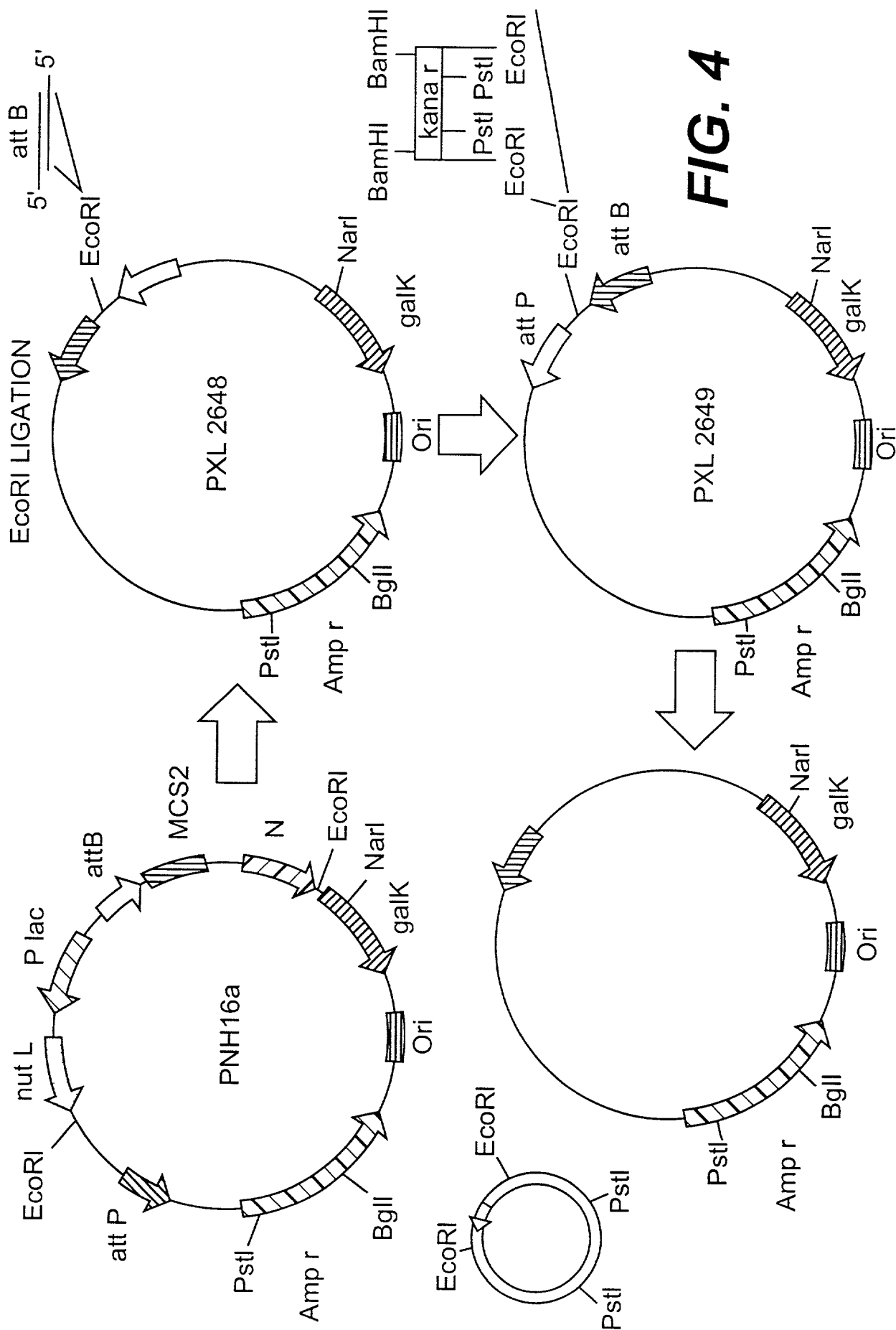
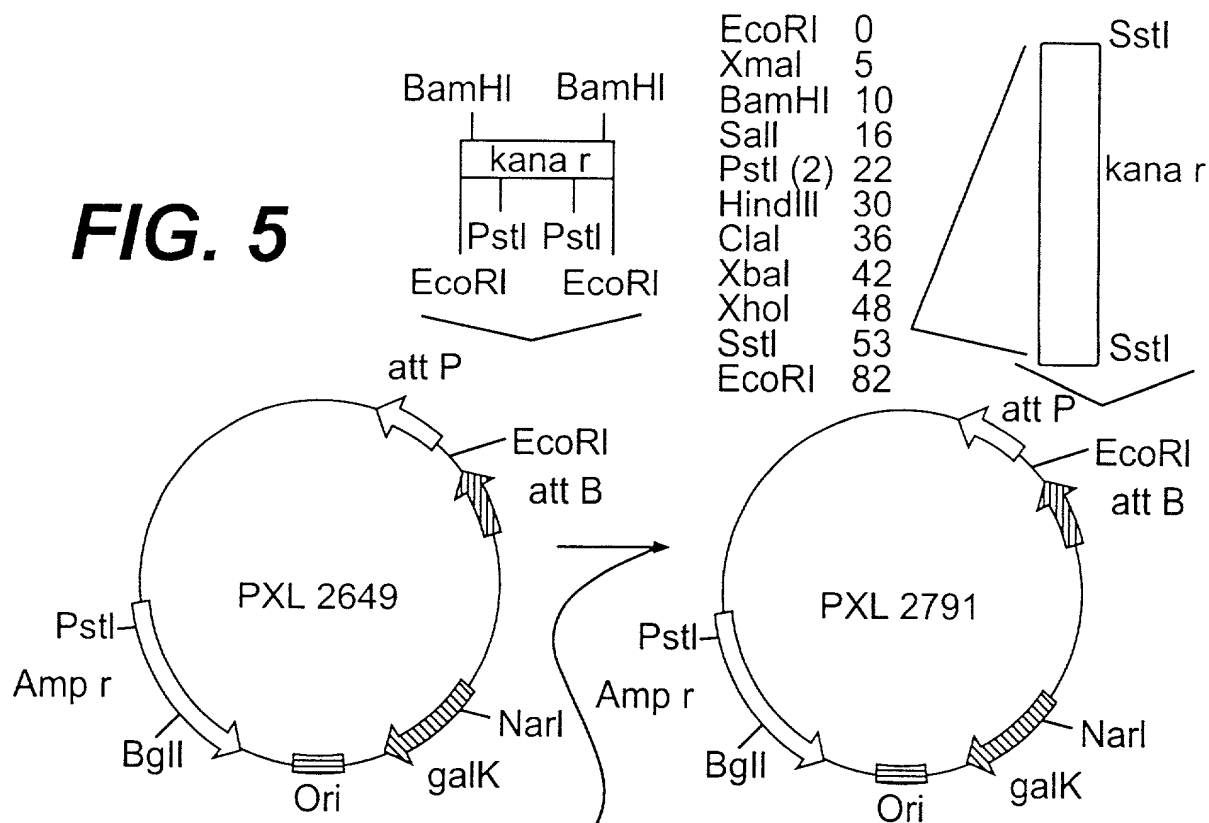
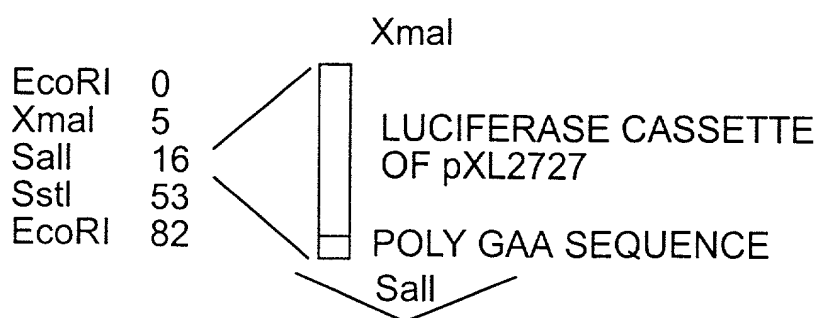


FIG. 5



1- EcoRI DIGESTION OF pXL2649
2-CLONING OF THE EcoRI FRAGMENT
OF PLASMID pXL1571 SET

DIGESTION OF PLASMID
pXL2791 WITH SstI



1-DIGESTION OF pXL2792 WITH Sall AND XmaI
2- CLONING OF THE Sall-XmaI FRAGMENT OF PLASMID pXL2727

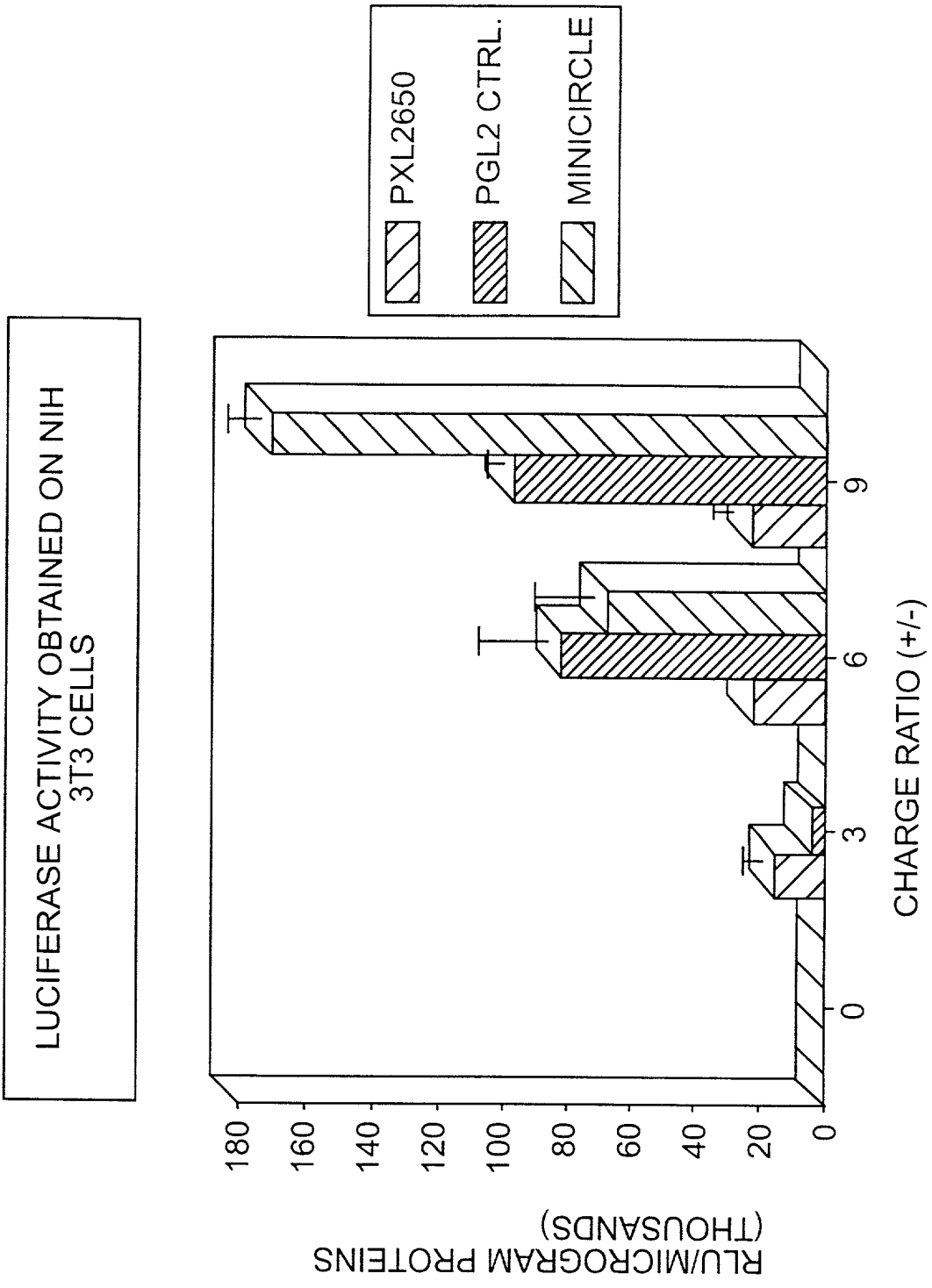


FIG. 6

- 1 →
- 2 →
- 3 →
- 4 →
- 5 →
- 6 →

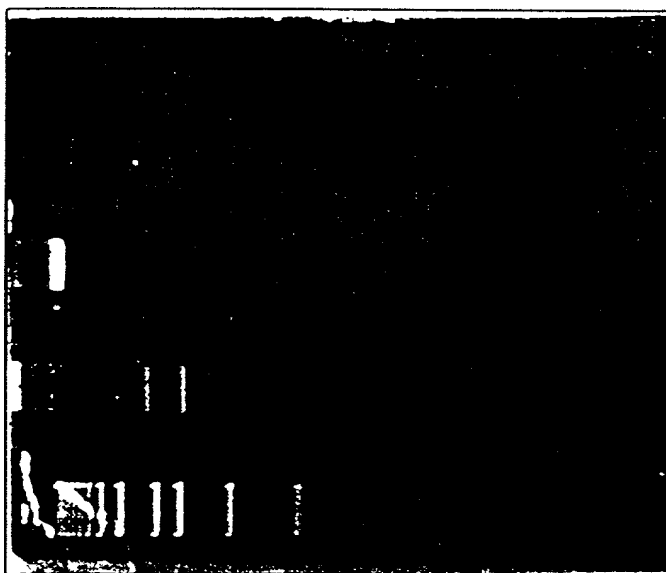


FIG. 7

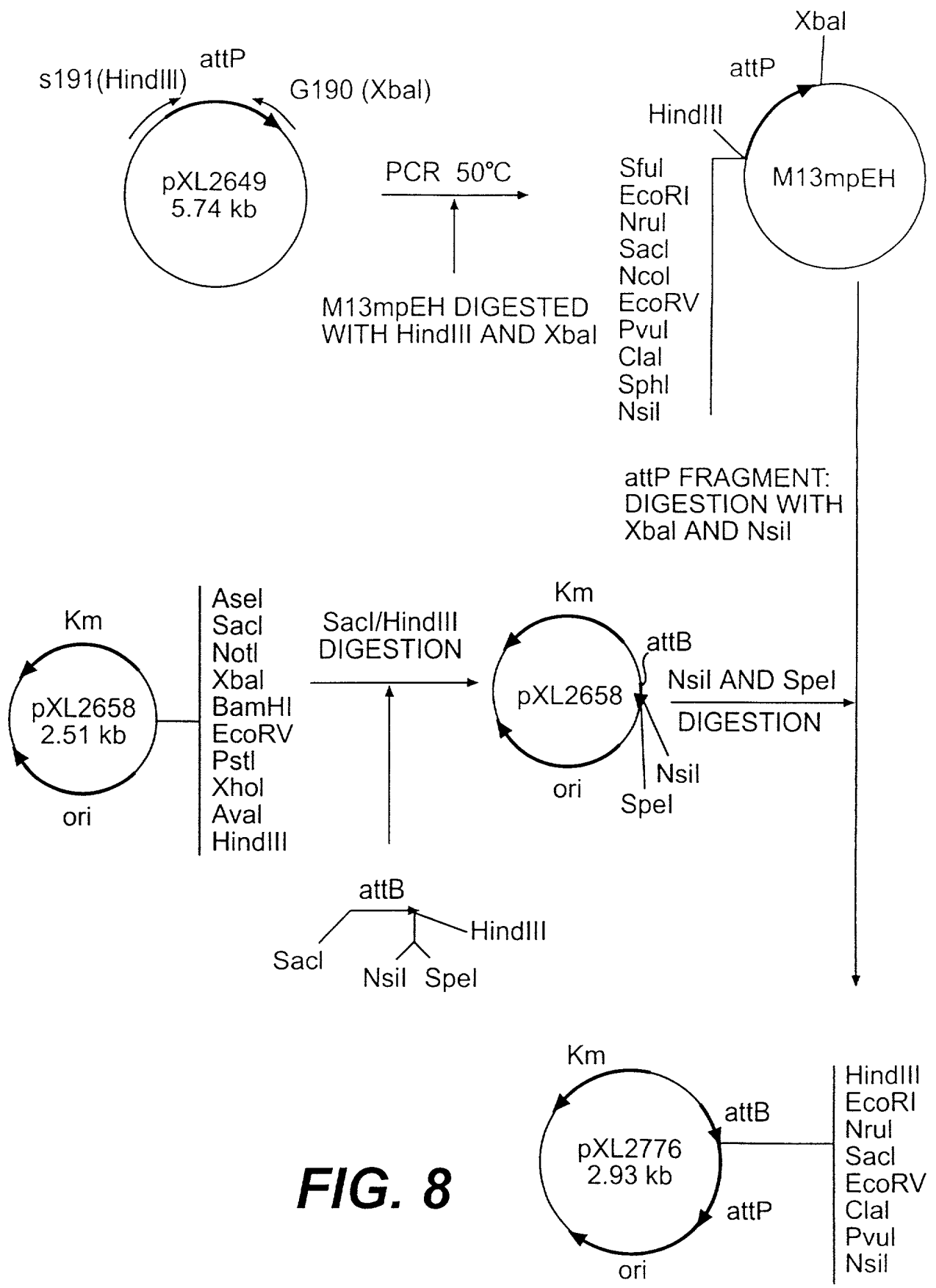


FIG. 8

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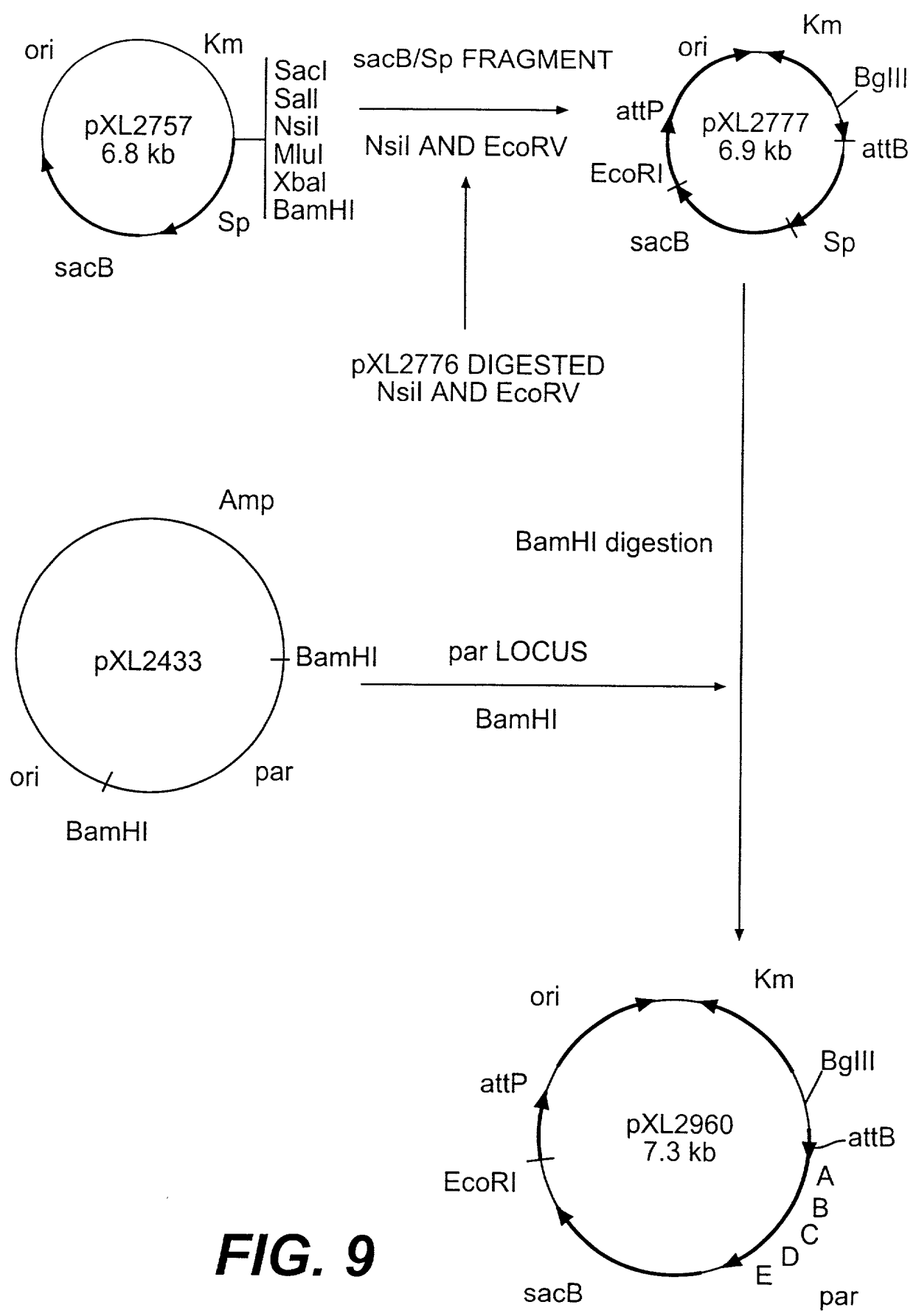
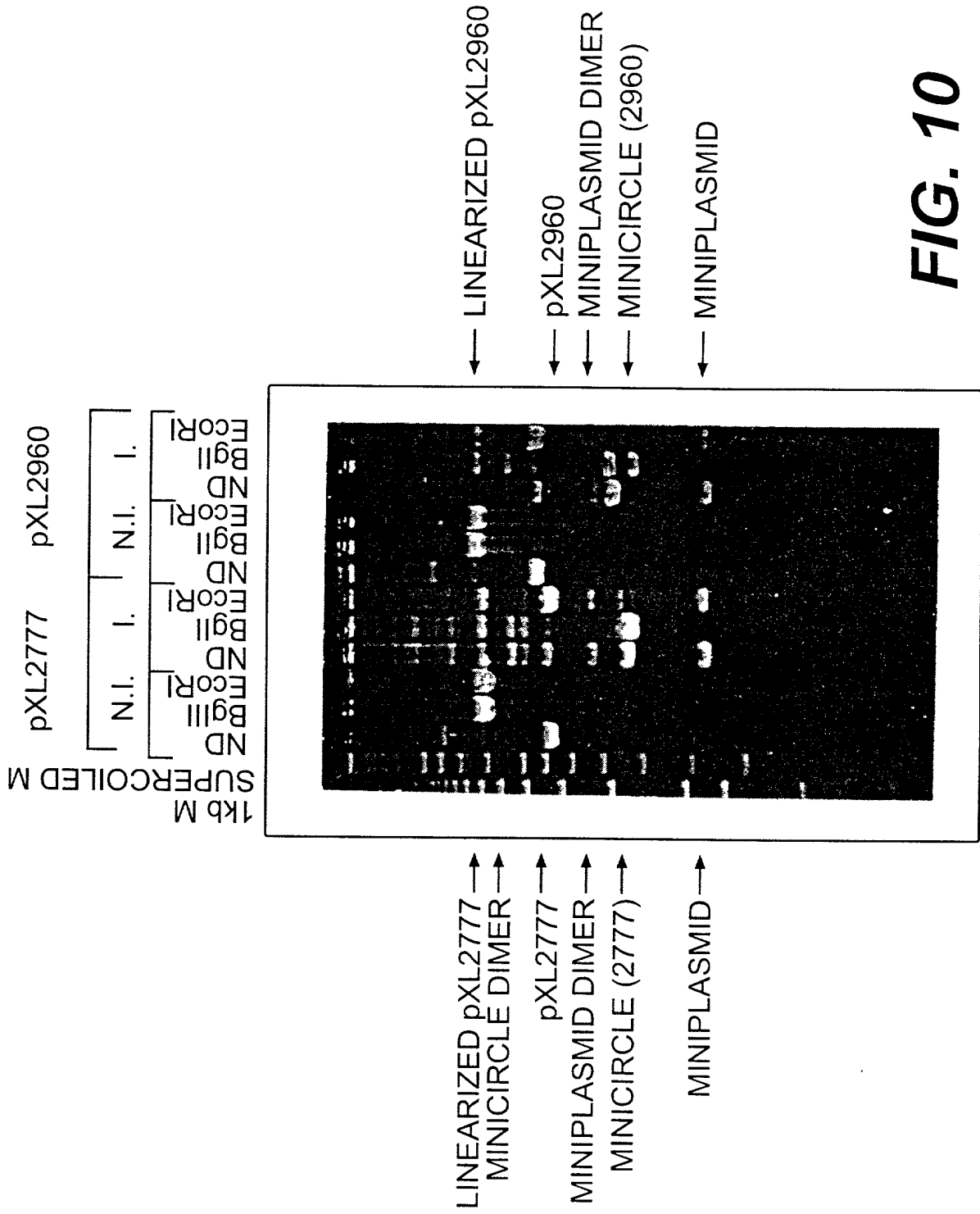


FIG. 9



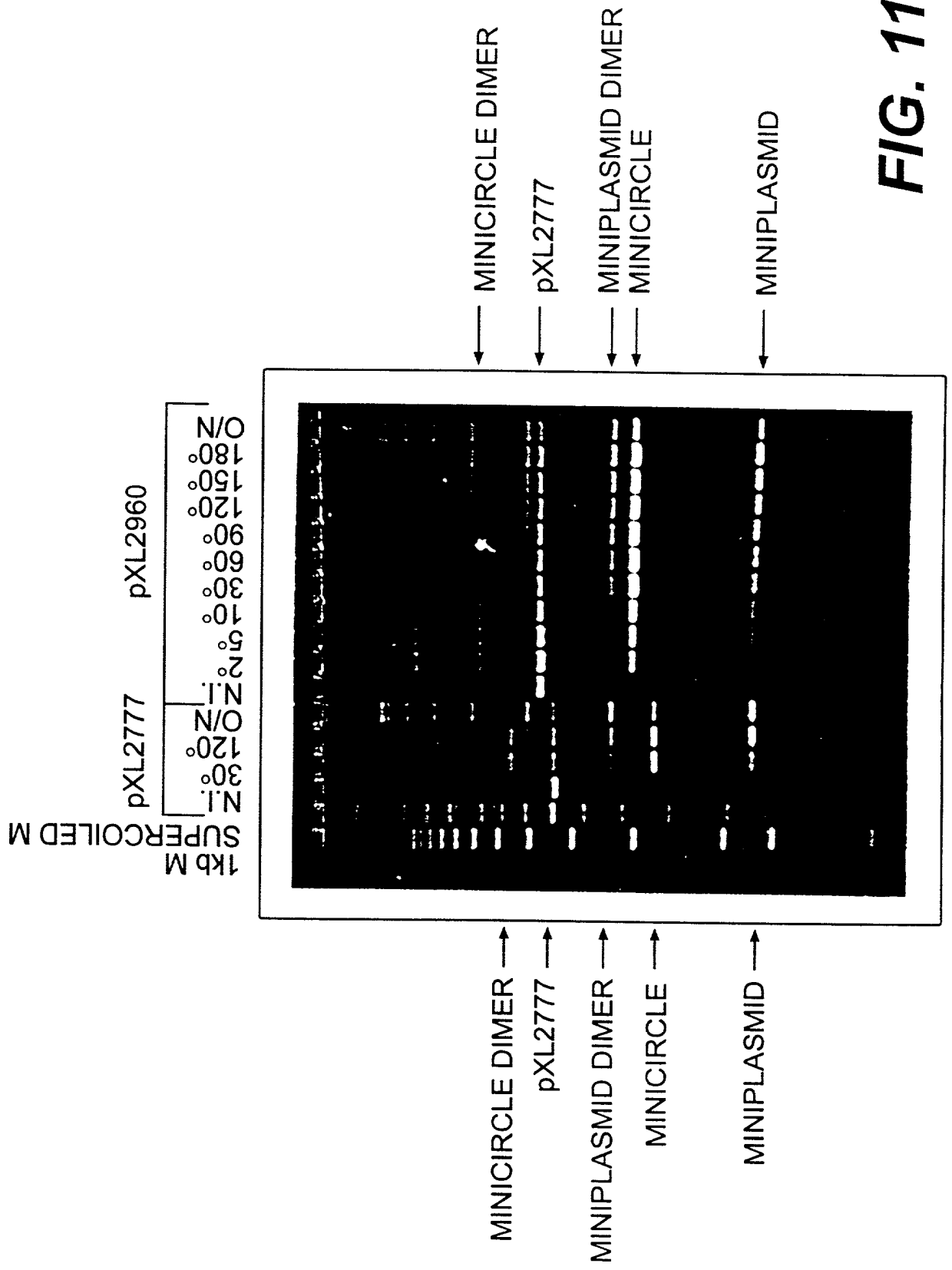


FIG. 11

Figure 12

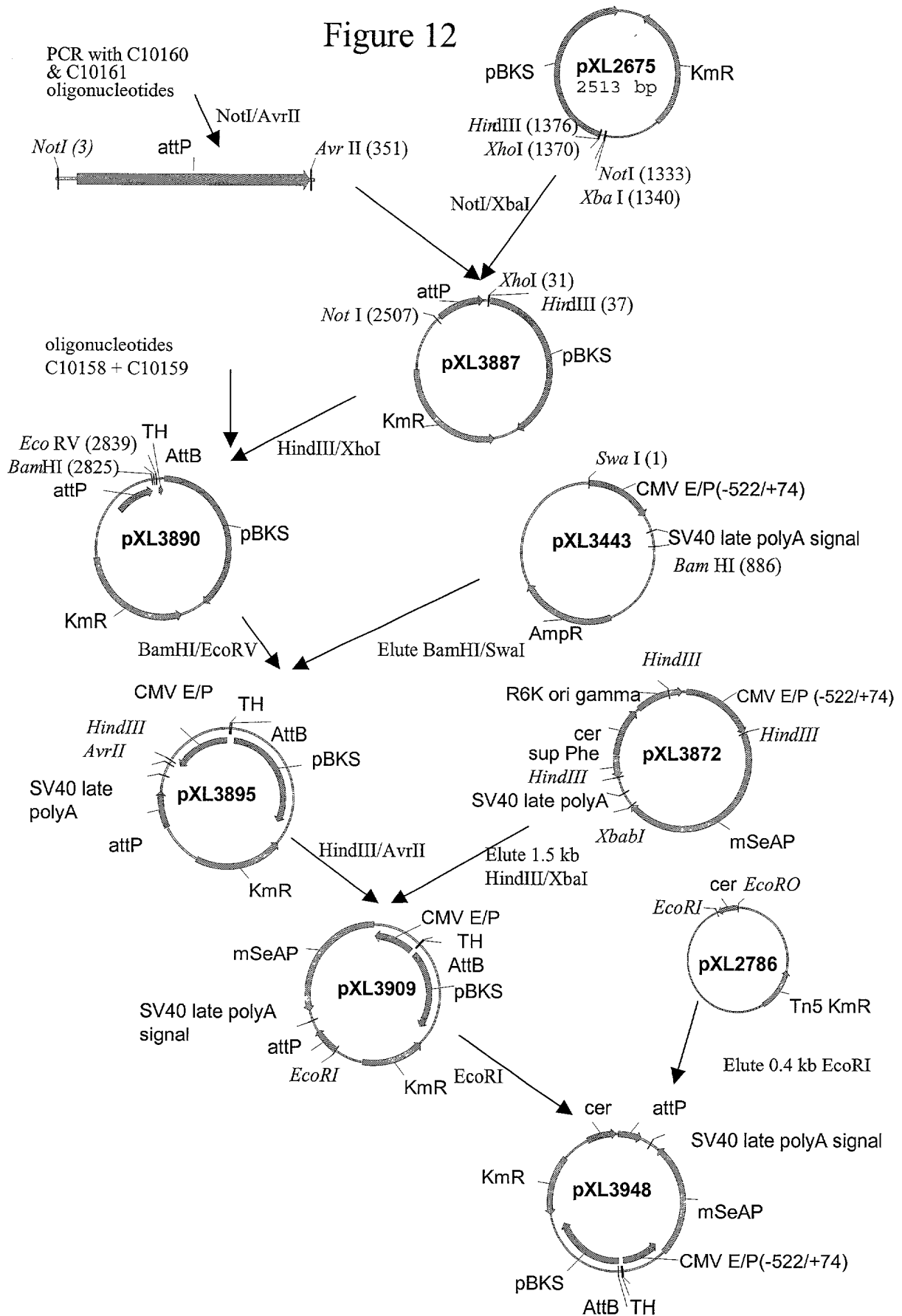
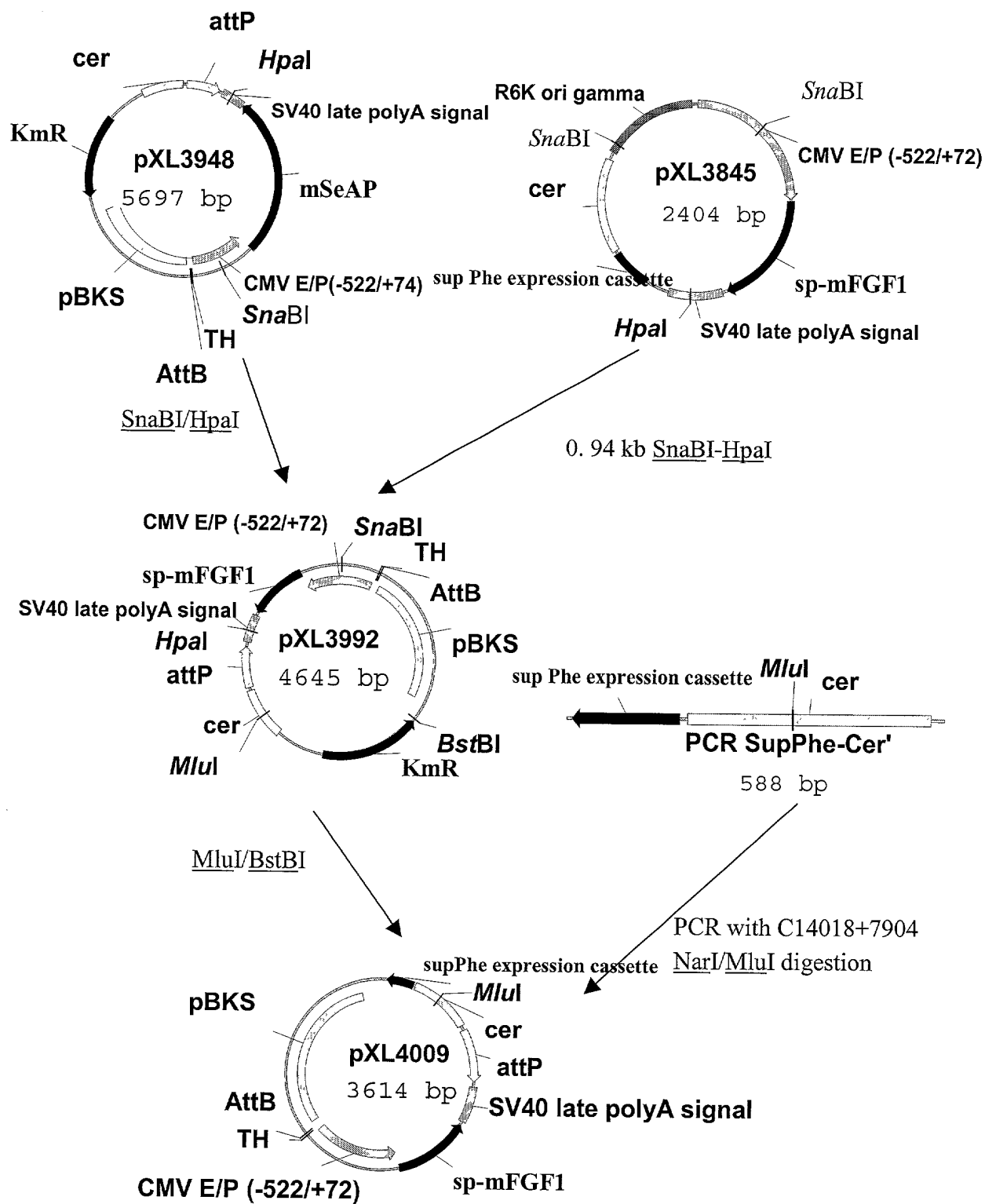
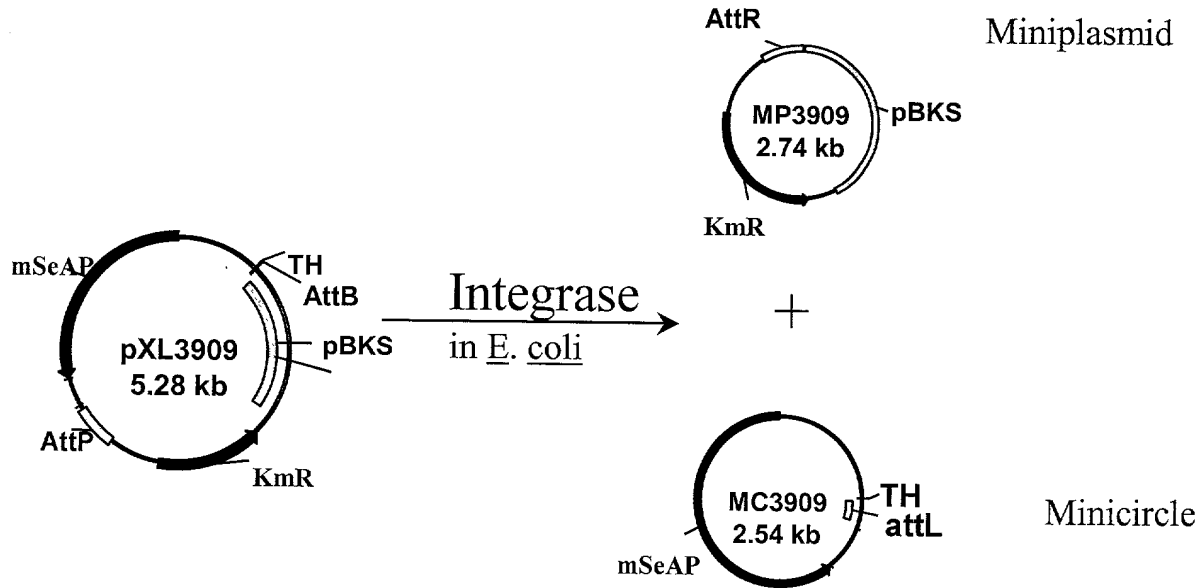


Figure 13



C14018: 5'-AAAGGCGCCAGCTTAAAAAATCC-3' (SEQ ID NO: 49)
 7904: 5'-CATACGTCATTATTGACGTC-3' (SEQ ID NO: 50)

Figure 14



TRIPLE HELIX SEQUENCE & attL (119 bp) (SEQ ID NO: 12)

5' - TTCTTTTTTTTCTTGAAGCCTGCTTTTTTATACTAAGTTGGCATTATAAAAAAGCATTGC-3'
 3' - AAGAAAAAAAAGAACTTCGGACGAAAAAATATGATTCAACCGTAATATTTTTTCGTAACG-5'

5' - TTATCAATTTGTTGCAACGAACAGGTCACTATCAGTCAAAATAAAATCATTATTTGATT-3'
 3' - AATAGTTAAACAACGTTGCTTGTCAGTGATAGTCAGTTTTATTTTAGTAATAAACTAA-5'

Figure 15

Genome of *E. coli*
D1210HP
(Gene 1987 56 p145)

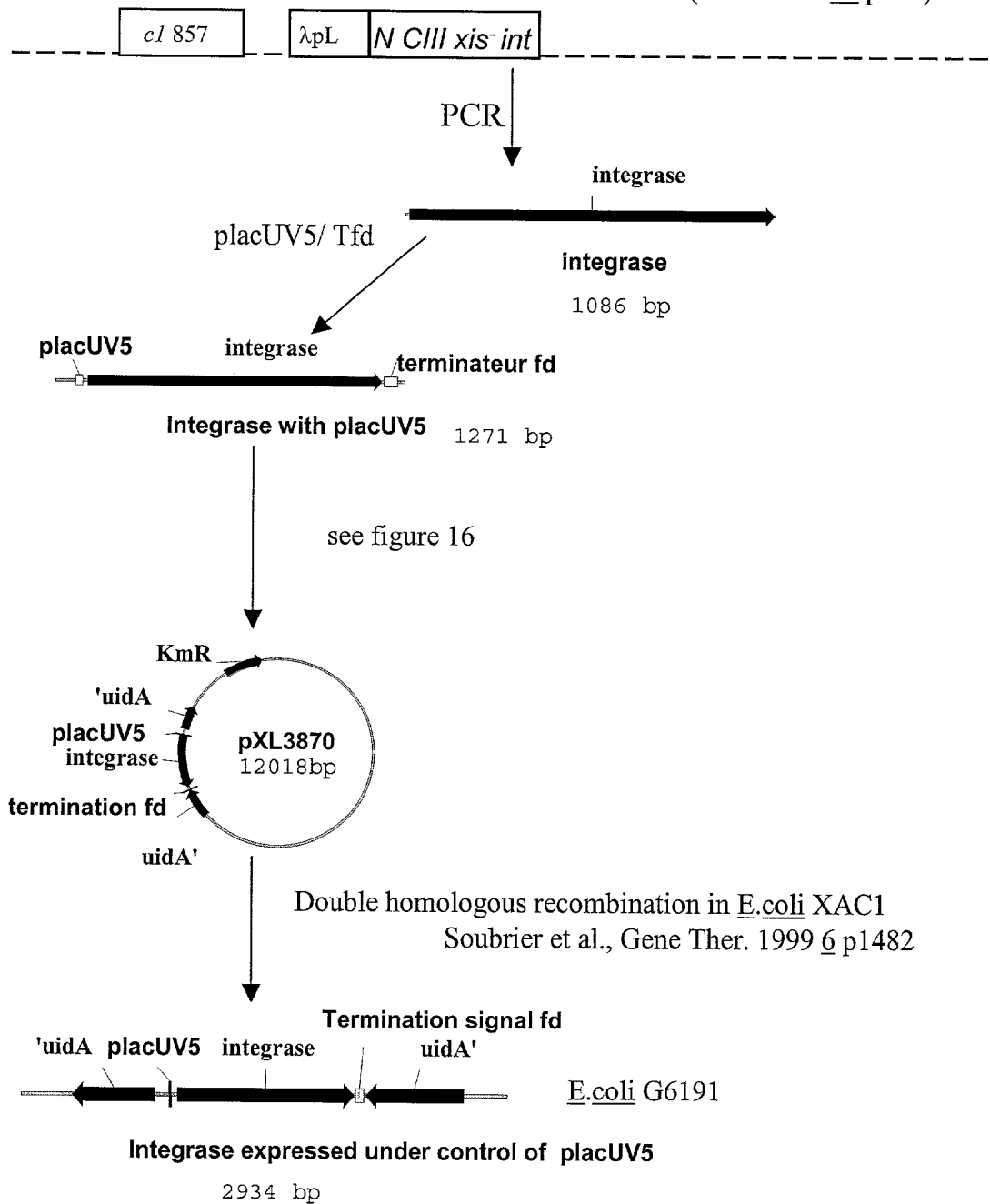
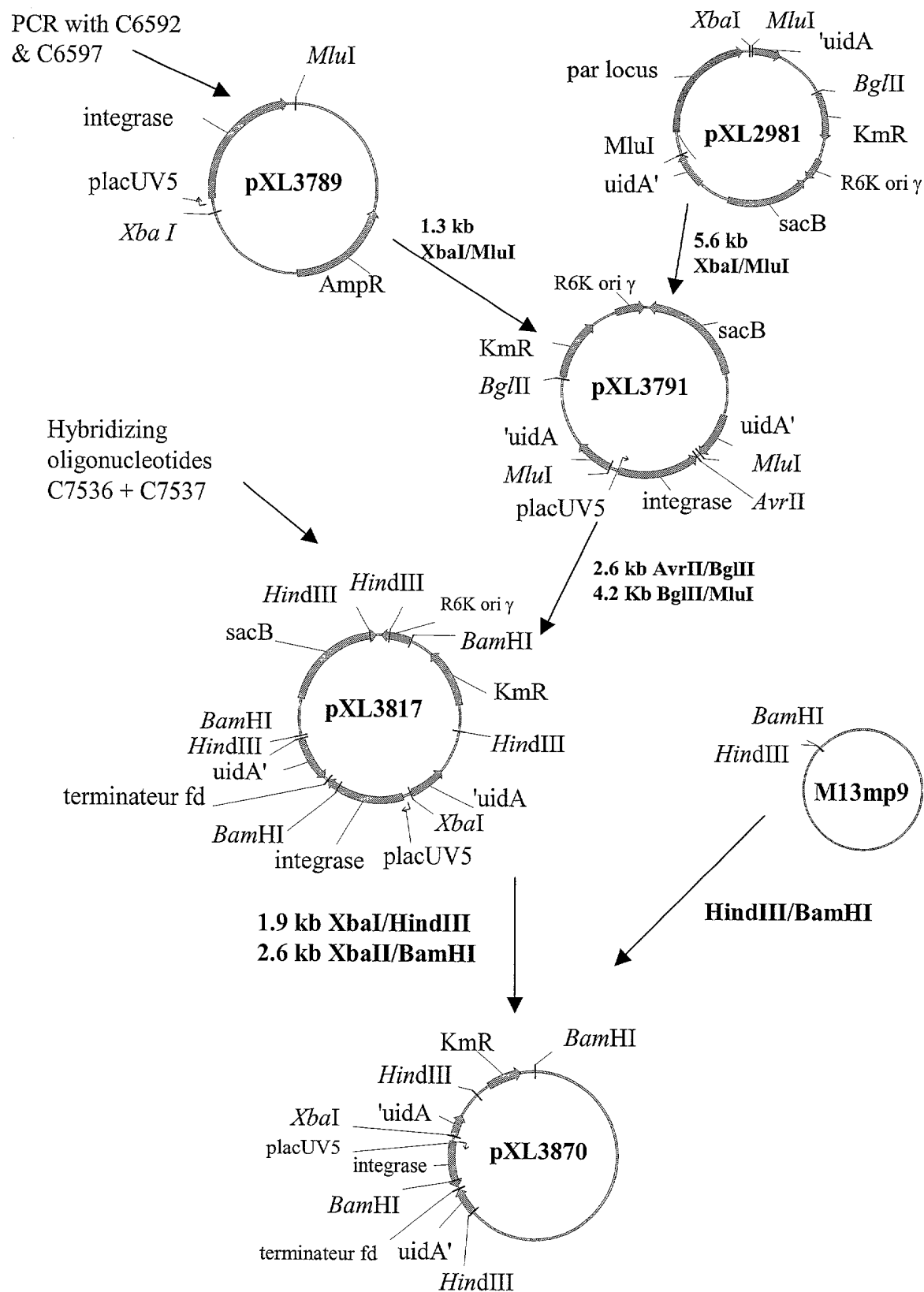
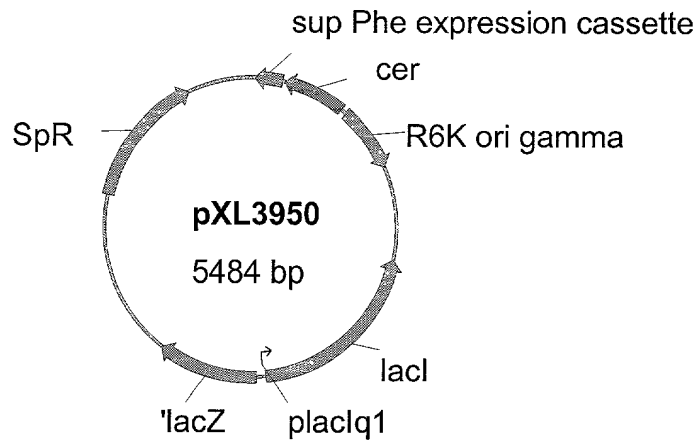


Figure 16



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Figure 17



Transformation in the strain G6191
Selection with spectinomycin

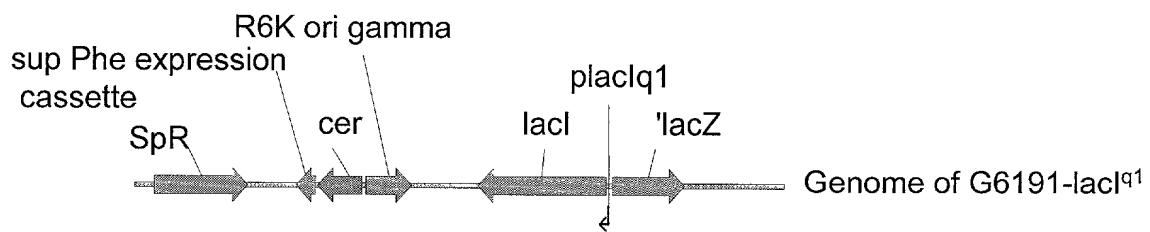


Figure 18

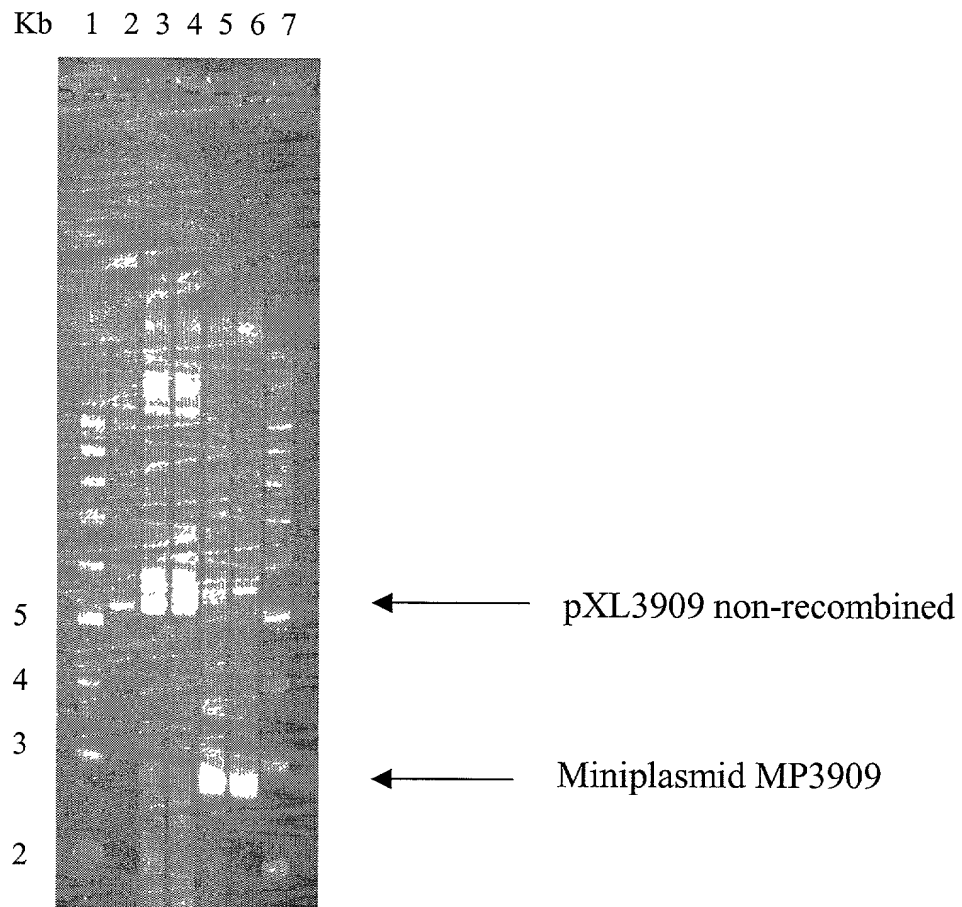


Figure 19

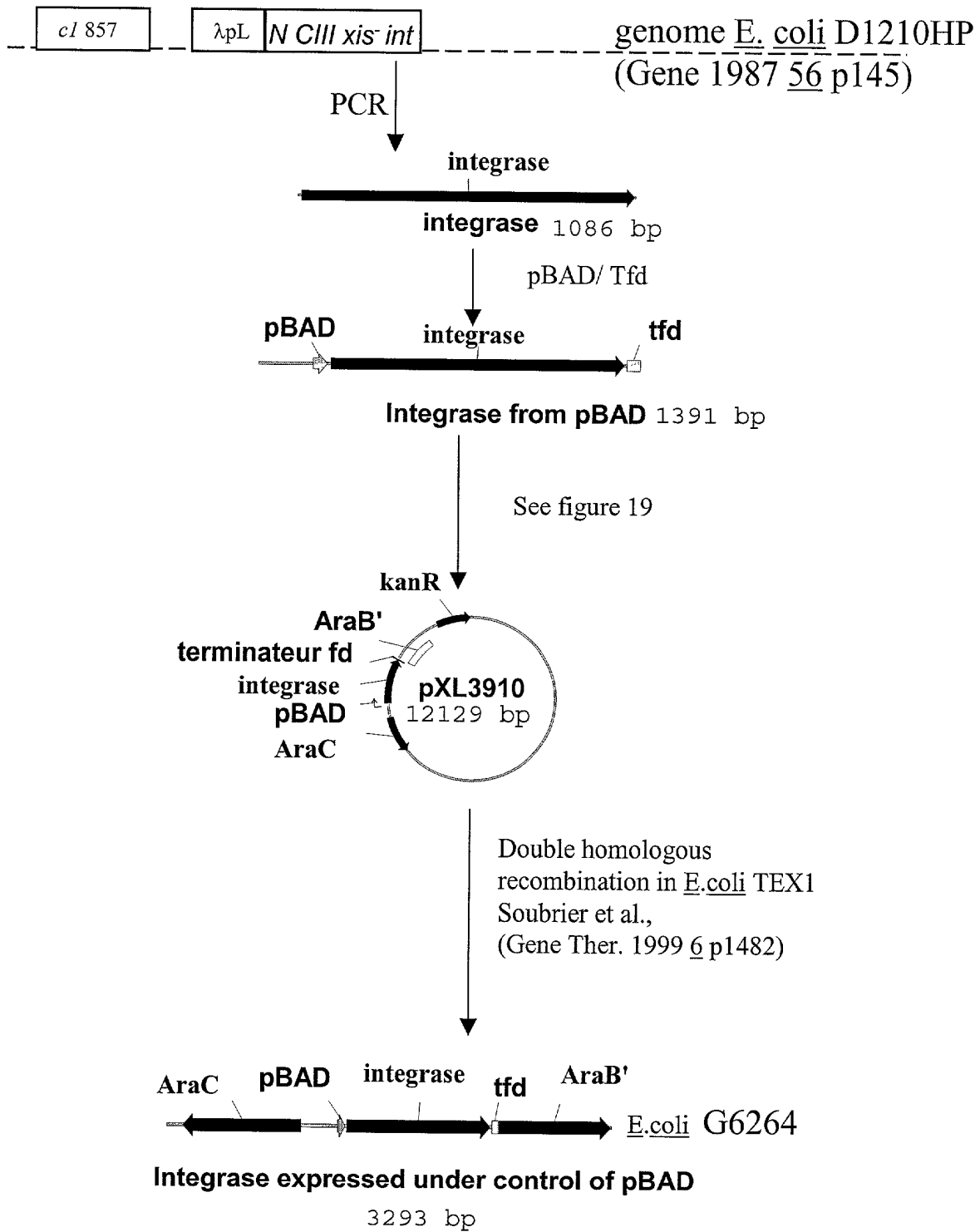
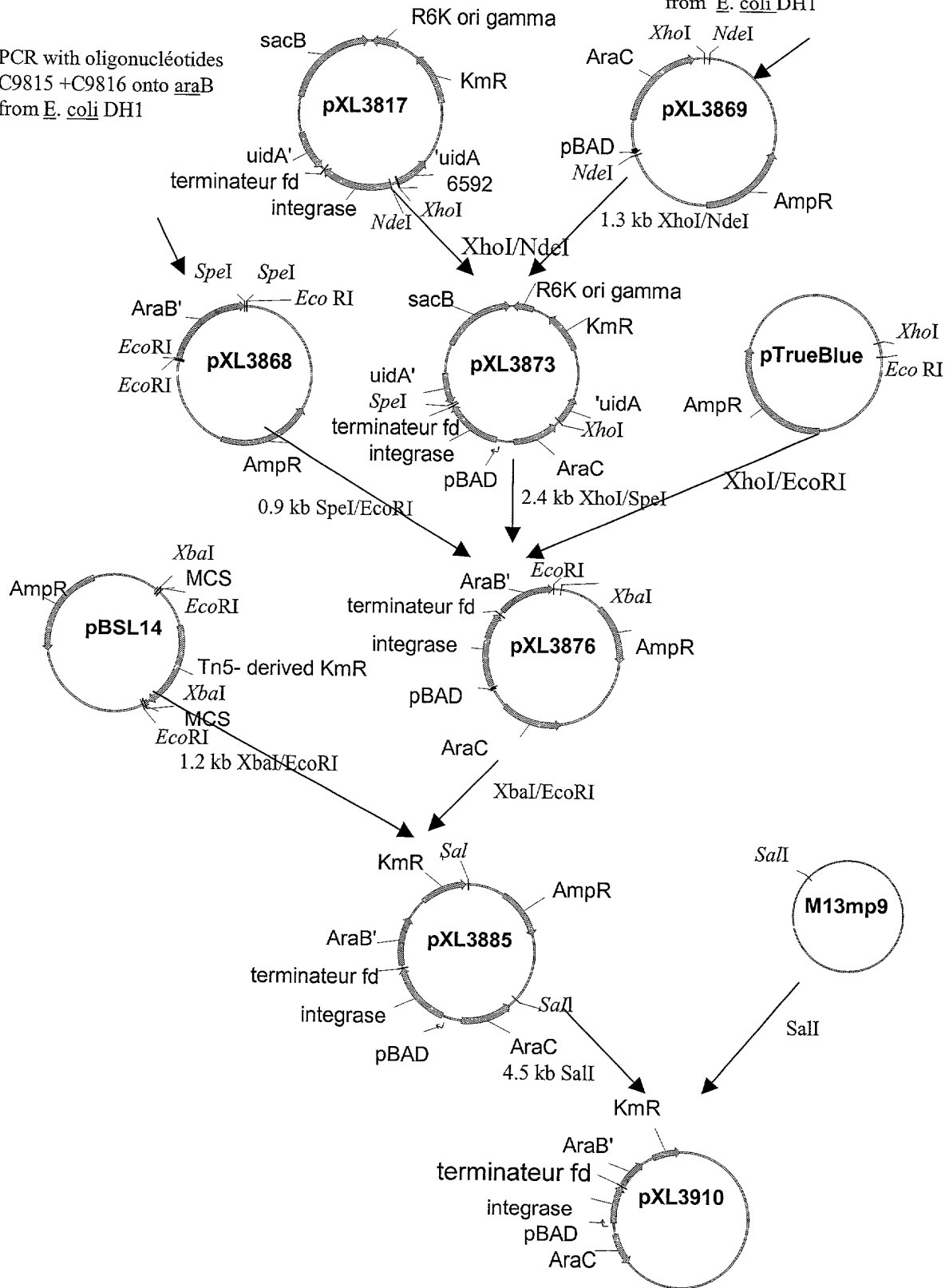


Figure 20

PCR with oligonucleotides
C9815 + C9816 onto *araB*
from *E. coli* DH1

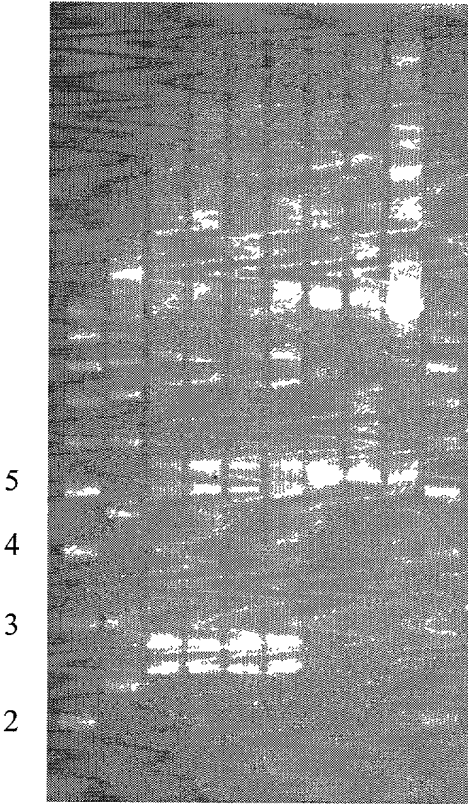
PCR with oligonucleotides
C9813 + C9814 on *araCpBAD*
from *E. coli* DH1



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Figure 21

Kb 1 2 3 4 5 6 7 8 9 10



Dimer of pXL3909

pXL3909

Miniplasmid MP3909

Minicircle MC3909

Figure 22

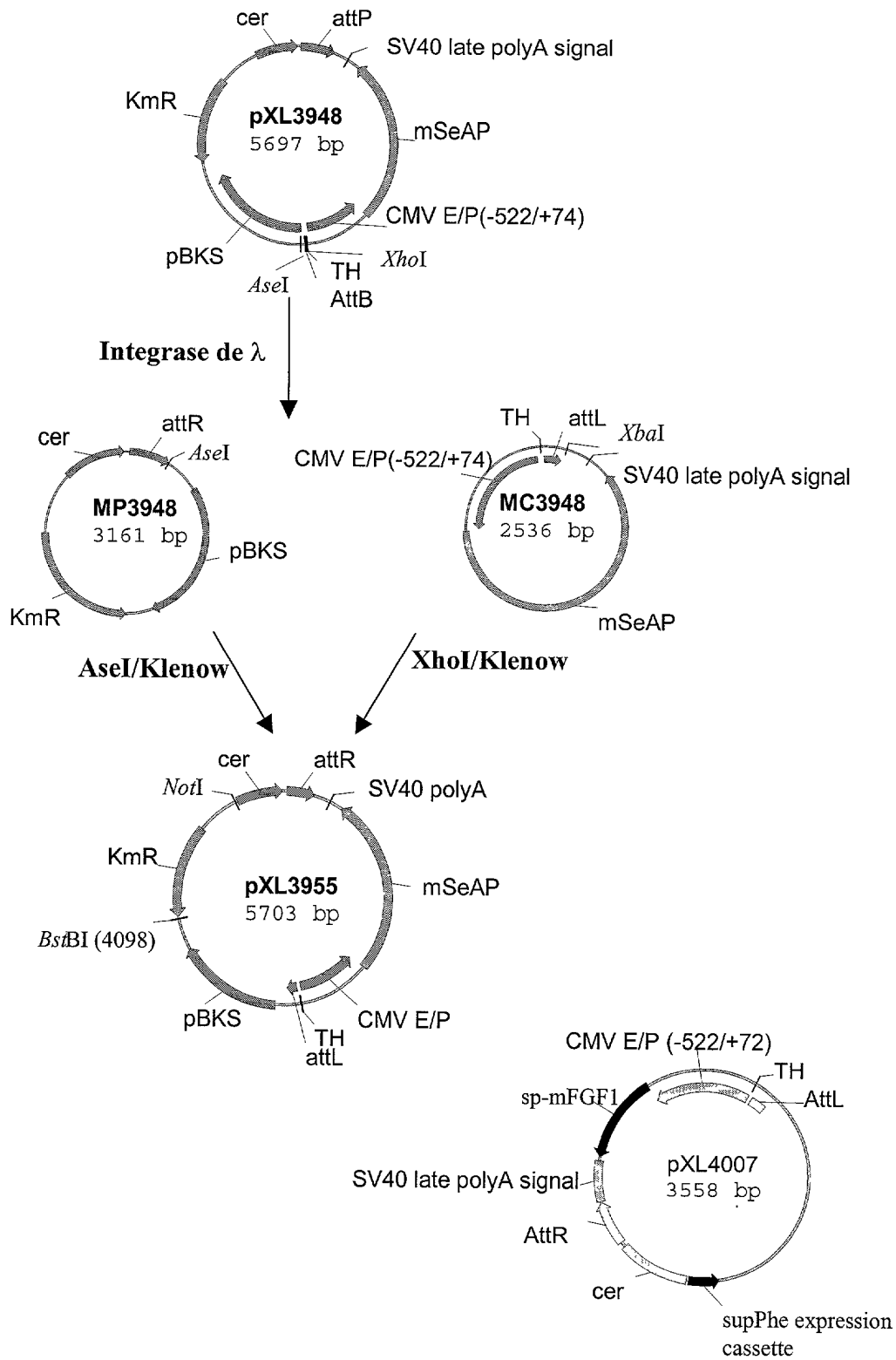
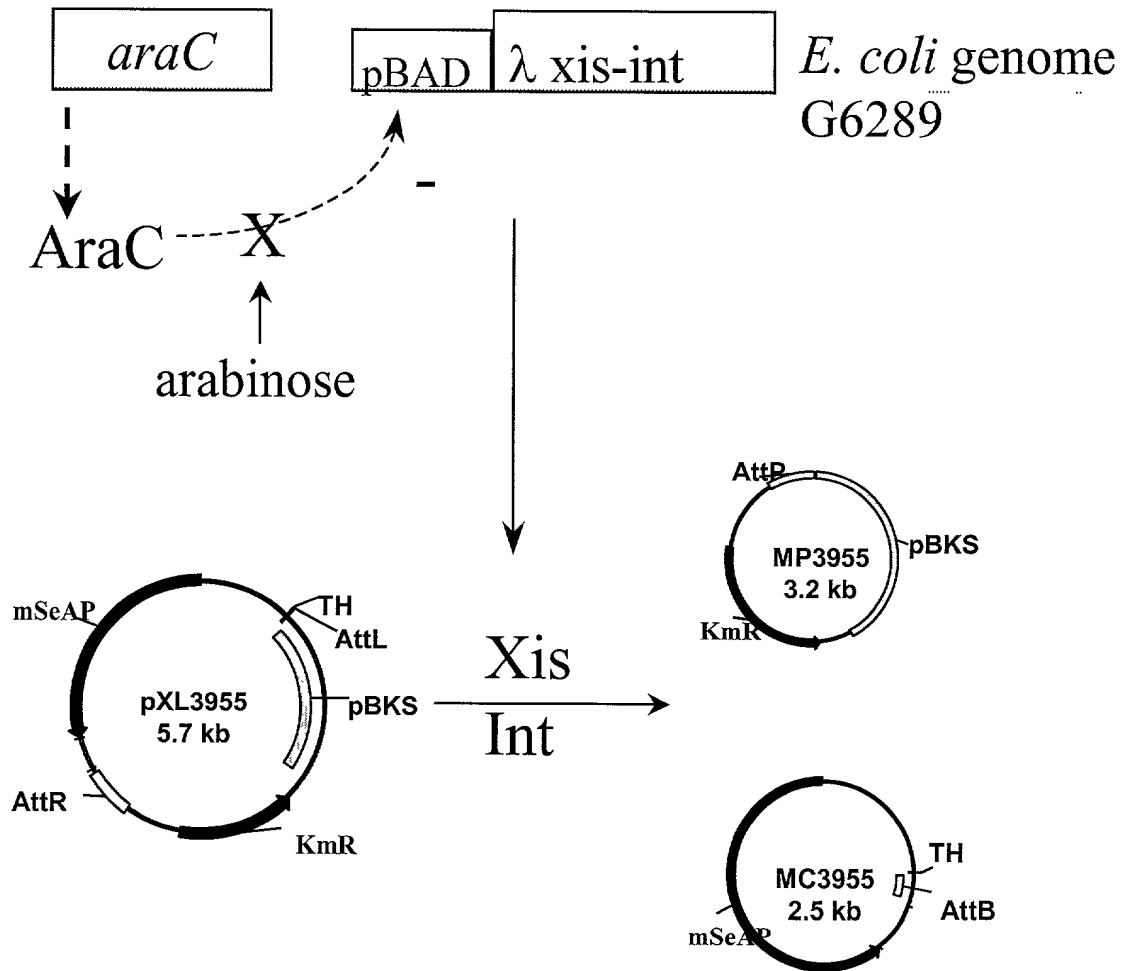


Figure 23



TH et attB (29bp) (SEQ ID NO:13)

5' - TTCTTTTTTTTCTTGAAGCCTGCTTTTTTATACTAACTTGAGC - 3'

3' - AAGAAAAAAGAACTTCGGACGAAAAAATATGATTGAACTCG - 5'

Figure 24

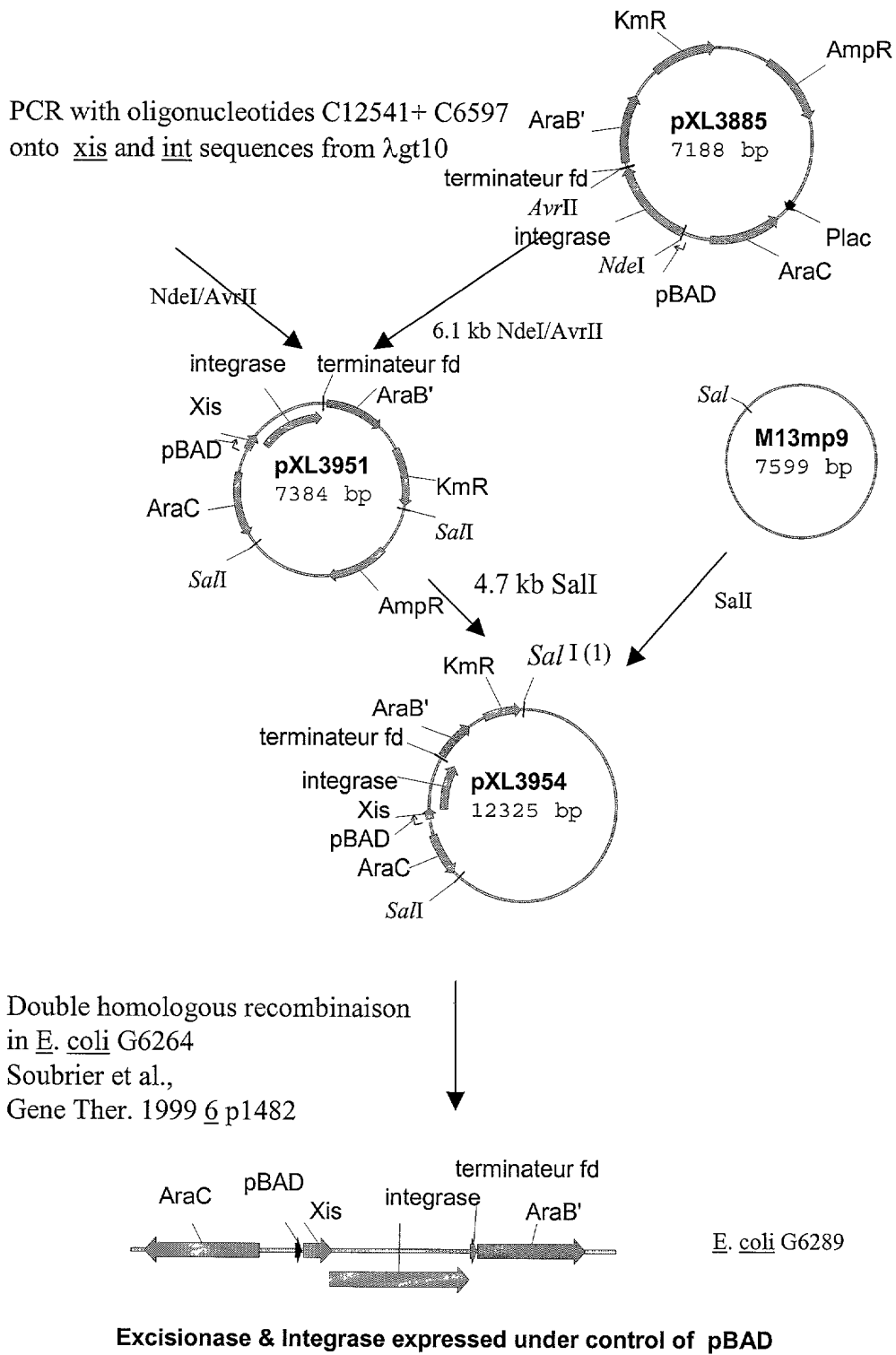


Figure 25

059400-1094

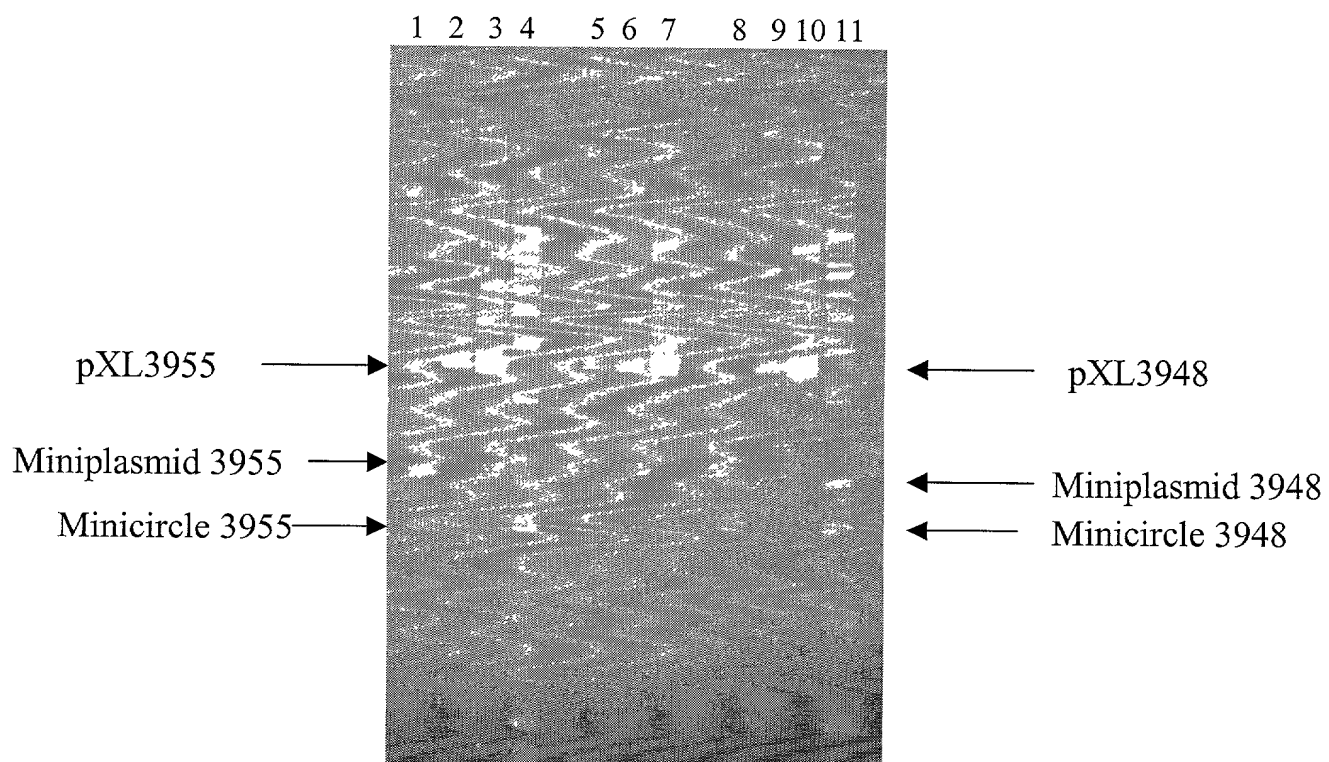
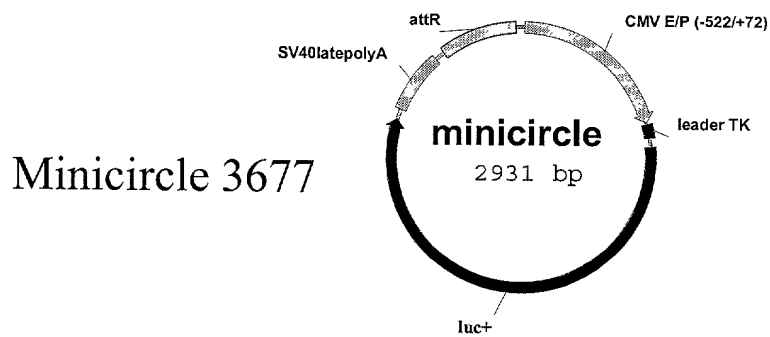
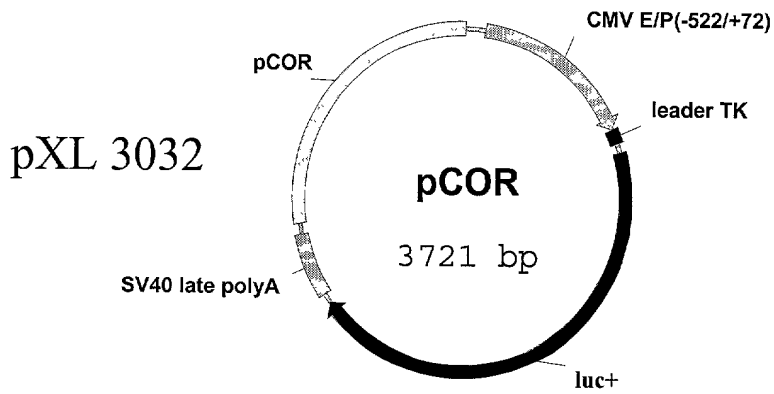
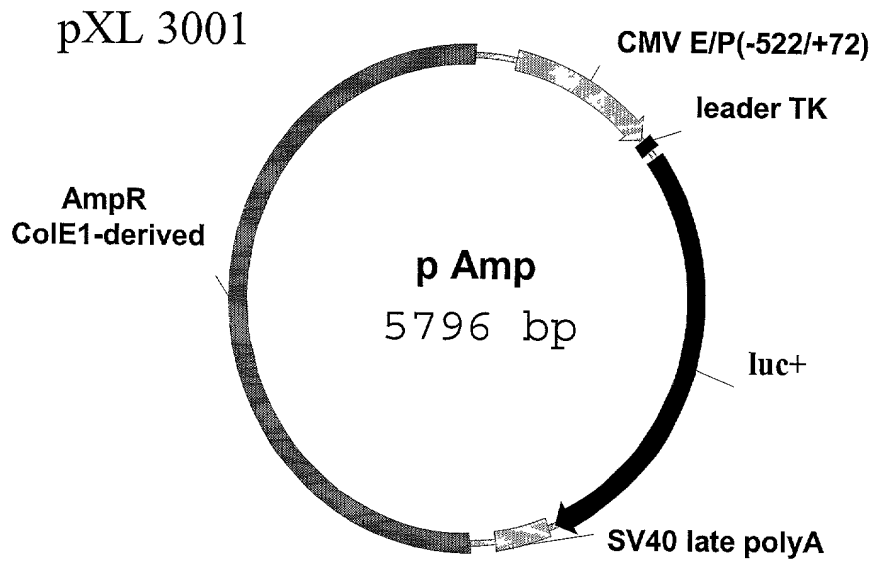


Figure 26



09981803-101904

Figure 27

